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The WISDOM of GOD in the
VEGETABLE CREATION.

A
S E R M O N

Preach'd in the
PARISH-CHURCH
O F
St. Leonard Shoreditch,

O N
WHITSON-TUESDAY,
May 19, 1730.

At the first opening of an ANNUAL LECTURE on
that Subject, founded by Mr. *Thomas Fairchild*,
late of *Hoxton*, Gardener.

By *JOHN DENNE*, D. D. Archdeacon of
Rochester, and Vicar of the said Parish.

L O N D O N:

Printed for *R. Knaplock*, at the *Bishop's Head* in
St. Paul's Church Yard. 1730.



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MAT. vi. 28, 29, 30.

Consider the Lilies of the field how they grow ; they toil not, neither do they spin.

And yet I say unto you, that even Solomon in all his glory was not arrayed like one of these.

Wherefore if God so clothe the grass of the field, which to day is, and to morrow is cast into the oven, shall he not much more clothe you, O ye of little faith?



OUR blessed Saviour in this part of his divine sermon on the Mount, gives us a most just, lively, and affecting description of the goodness and providence of God, as they extend themselves over all the works of his creation : and then applys what he had said upon the subject to *men* ; who are often apt entirely to fix their hearts and souls upon the uncertain and transitory blessings of this world ; and to be so unreasonably, and irreligiously anxious in procuring them, as not only to be *faithless*, and distrustful of the care of a most wise and kind Creator, and to neglect the service and righteousness he requires : but to

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barter away in exchange for them their title to his favour, and glory in the everlasting *kingdom of heaven*.

To convince them of the folly of such a conduct, he uses a variety of reasons and arguments, and in the *verses* I have read to you, he desires them to *consider the* (a) *lilies of the field how they grow; tho' they toil not, neither do they spin: and yet God gives them a continual increase, and clothes them from year to year in so beautiful a dress, as far exceeds all that the art of man can effect, or the treasures of the richest princes procure; so that even Solomon in all his glory was not arrayed like one of these. Wherefore if God so clothe the grass of the field, which to day is, and to morrow is cast into the oven, shall he not much more clothe you, O ye of little faith? Have we not hence sufficient assurance to believe, that the good providence of our heavenly Father is over all his works? and that he will give success to a reasonable forecast and industry in men, and thus from time to time provide for them such a share of these earthly and temporal blessings, as shall, all things considered, be wisest and best for them, whilst they are children of this world, in a state of tryal; where our main concern is so to use it, as that when the fashion thereof passeth away, we may be received on account of our fidelity and righteousness into everlasting habitations. Doubtless the love of God to men must exceed all that we can discover of it towards vegetables or animals; since we are his offspring, creatures much better in our kind, nay infinitely more worth, than the grass of the field, the fowls of the air, and the beasts of the earth; over which he hath given us an absolute dominion: and to qualify us for it, hath made us in his own image, after his own likeness, intelligent, free, moral agents; capable of knowing, capable of*

(a) *The lily is of an admirable whiteness in Palestine and other hot countries, and grows there naturally without any cultivation; tho' some conjecture Tulips to be here meant.*

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contemplating and adoring, capable of imitating, in some degree and measure, the perfections and the works of our great Creator, and of enjoying the pleasures of his presence to all eternity.

Having thus shewn the connexion and purport of my text, I am naturally led by it, as well as by the extraordinary occasion of my appearing here to *consider*.

First, the wonderful works of G O D in the *vegetable* part of the *Creation*.

Secondly, to draw such religious and practical inferences from thence, as are most proper in themselves, and such as the *Founder* of this *Lecture* had probably in his view.

I. *First*, I am to *consider* the wonderful works of G O D in the *vegetable* part of the *Creation*; and these will, I believe, appear from the reflections I shall make on the order, growth, beauty and uses of

Each of these particulars would open to me a large and surprising scene of speculation, was I qualified by the course of my studies to do the justice that is due unto this subject: but as this is a want, which the daily experience of many, who hear me, shall abundantly supply, I shall content my self with offering some general remarks or hints, which may serve for the instruction of the ignorant, and *stir up* the knowing to *glorify* the Creator and Governor of the universe, by *putting them in remembrance* of those truths, which their own observation or reading have suggested to them.

It is indeed obvious to every vulgar eye, that there is an infinite variety of *seeds*, by which the different *species* of *vegetables* are preserved and propagated; so that they never fail to keep, without confusion, their natural order, or species; G O D thus *giving to every* his own body, and distinguishing what springs from peculiar leaves, flowers and fruit. Philosophy
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not only confirms this truth, but as far as the discoveries of the *microscope* will reach, we find, that seeds of *vegetables* are real and perfect plants, minutely folded up and inclosed in a shell, or skin, whence it becomes highly probable, that all the seeds and plants, that ever were or shall be in the world, were form'd together in *embryo*, by the word of Almighty on that solemn day of Creation; when God said (Gen. i. 11.) *Let the earth bring forth grass, herb yeilding seed, and the fruit-tree yeilding fruit of his kind, whose seed is in itself, upon the earth.* that his providence ever since has been only unfolding their *original stamina*, and bringing them to a visible state of existence, in his own wise and appointed time according to certain, uniform, and fixed laws, to which he has been pleased to subject matter and motion in *vegetables*, from the beginning of the world.

And indeed to find out, and admire the wisdom of these laws, is the whole business of a *philosopher*, who really becomes a *fool*, however *wise* he may be in his own imagination, when he presumes to exclude God and his *providence* out of his schemes, and to account without them from matter and motion only, for the smallest production in the *vegetable* world for (a) *how the seed springs or grows up we know* unless by resolving it into the perpetual influence of him, who created and governs all things. We know it is true, as far as our researches can go, that *plants* (b) in their internal constitution are wonderfully made, and consist of a numberless variety

(a) Mar. iv. 27. (b) I must here, as I shall throughout the work, refer the reader to a most curious book, intitled *Vegetable Statics*, but would advise him to peruse the whole most carefully, if he desires to have a true insight into the natural history of vegetables: or to see how much I am indebted for almost every thing I have said upon this subject to the reverend author, Mr. Hales of Teddington, p. 98. 105. 136. 146. 147. 353. 354.

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es and *vessels*, which being endowed with a surprising property of attracting, are like so many *capill-tubes*, exceeding fine, and remarkably disposed branched out in such a manner, as that they may combine and exert their respective powers in every way, towards collecting and digesting such plentiful regular supplies of nourishment, as are most proper for the age, or species of each *vegetable*, or the climate where it grows: and towards making the (b) the chief vehicle of it, to rise, fall or perspire in such proportions, as may most contribute to its health and vigor. We find likewise, that this nourishment do in fact arise from (c) water mixed with saline, sulphureous, oily, or such other kinds of earthy particles, as make up and suit the constitution of each plant, herb and flower. And that this supply might never fail, Providence has taken care to lay up (d) hidden stores of moisture in the earth, (e) *a deep that coucheth beneath*; besides the inexhausted treasures of the ocean, from whence the *sun* is continually exhaling an immense quantity of Water to fill the atmosphere with clouds and vapours, which being there (g) *made small*, and by a kind of distillation cleared from all grosser salts and particles, return to the earth in rains and dews, which not only recruit the springs and rivers with fresh and wholesome liquor, but *distil and drop* as from a watering pot, upon *vegetables*, sinking down gently into their roots, or *laying all night in dew* on their *branches*, by which means their most tender buds spring forth, and proper nourishment sucked in, and conveyed to every part in due season and proportion; whereas an unseasonable over-

(a) *Veget. Staticks*, p. 321, &c. (b) P. 3. 100. 136. (c) P. 245. 318, &c. 360. 365, &c. (d) P. 358. (e) *Deut.* iii. 13. (f) Dr. Bentley's *Boyle's Lect.* 8vo, p. 328. (g) xxxvi. 27, 28. *Deut.* xxxii. 2. *Job* xxix. 19. xxxviii. 27.

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flow of these heavenly blessings (a) would rot, and destroy, or make them unfruitful. But besides all this (b) the natural heat of the sun, (c) the particles of light, or artificial fires assisted by the various and mysterious powers of the (d) air, which insinuates itself into the closest plants, are all of them absolute requisite in certain degrees, to maintain the beautiful frame of things in the *vegetable* world, in a continual round of production, perfection, and dissolution. These are discoveries founded upon common observation, and enlarged by a series of curious experiments; but then the more we pry into the original causes of these effects, the more certain we are even to demonstration, that they can never be the result of motion and matter only, but must be ascribed to GOD, (e) in whom all things live, move and have their being; and who thus exerts his power every moment in every part of the material world, in a continued, regular and uniform manner of his ordering, which we therefore call the natural qualities of bodies.

I should, I am sensible, go beyond my own knowledge, and be lost for want of use in the mazes of *experimental philosophy*, was I here to attempt even a rough draught of the *natural history* of vegetables by examining their structure; or by tracing them from their invisible, but perfect *embryo*, thro' all the steps they take in coming to their full growth and maturity; or by shewing the many admirable provisions that are made for conveying (f) nutritive juices, and air into them, without which *vegetables* could

(a) *Veget. Staticks*, p. 323. 326. 334. 367. (b) *Veget. Staticks*, p. 104. 136. 165. 196. 358. *Deut.* xxxiii. 14. 2 *Sam.* xxiii. 4. *Job* xviii. 4. (c) *Veg. Staticks*, p. 284. 327. (d) *P.* 207. 2313. &c. 318. 365. (e) *Acts* xvii. 28. (f) *Derham's Physico-Theol.* p. 407. *Veget. Stat.* p. 148. 313. 318.

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more live, nor thrive than *animals* can. The
quisitive have observ'd in the general, that their bo-
ies are most curiously wrought, and exactly propor-
on'd, and then so *fitly joined together and compacted*,
that they grow up, and make increase (a) by that,
which every joint supplyeth, according to the effectual
working in the measure of every part, by the different
powers assign'd them by the all-wise Creator and
contriver. The fabrick and texture of these bodies
are indeed so intricate and fine, that we can discern
but little of their *internal constitution* thro' the best of
Microscopes: but were all their innumerable fibres and
vessels naked and open to our eyes, ' what an amazing
and beautiful scene of inimitable embroidery should
we behold? what a variety of masterly strokes of
machinery? what evident marks of consummate
wisdom should we be entertain'd with? " nay, I doubt
not, but that the very probable conjecture, of a sages-
sious and truly religious philosopher, would thus
prove to be a real fact, (b) that ' the specifick diffe-
rences of *vegetables*, which are all sustained and
grow from the same nourishment, are owing to the
very different formation of their minute vessels,
whereby an almost infinite variety of combina-
tions of the common principles of *vegetables* is
made. " We know indeed in part, and see through
glass darkly, that the bark which covers them, the
leaves which clothe them, and the roots which support
them, are all in some degree contributory to their
life and well-being. But how much they are so, I
must appeal to the experience of many, who hear
me, and particularly, to that of the curious and in-
dustrious *Founder* of this *Lecture*, believing that they
will justify me in these general assertions; that the

(a) *Veg. Staticks*, p. 329. &c.

(b) *Veget. Staticks*. p. 360,

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bark, (a) tho' a very curious piece of net-work in appearance, is much more so in reality; and that not only defends the plant from the injuries of excessive heat and cold, but at proper seasons opens free entrance and passage thro' a variety of fibres to the sap and air. As to the *leaves*, (b) they are not only assistant 'in bringing food from all parts within the reach of the attraction of young shoots, and the growing fruit, which, like young animals, is furnished with proper instruments to suck thence; but they seem likewise designed for many other important services: ' (c) for they embrace and defend it in its tenderest state, and are its best security, whilst it is ripening, against the too parching beams of summer-suns; in them are also (d) laid the principal drains to separate and carry off by perspiration the redundant watry fluid, which would otherwise stagnate, and turn rancid and prejudicious. Nay we have great reason to think, that they (e) likewise 'perform in some measure the same office for the support of the *vegetable* life, that the lungs do for the support of the animal life, plants very probably drawing thro' their *leaves* some part of the nourishment from the air, " as well as from rain and dew. And what is more remarkable, (f) we find them 'growing at small distances throughout the whole length of young shoots in all sorts of trees, that they may thus serve as so many joint-acting powers placed at different stations, thereby to draw with more ease to the extending shoot plenty of sap, " and nutritive matter, which is wonderfully prepared, refined, and mixed in the air, (g) out of hu-

(a) Ray's *Wisdom of God*, p. 78, &c. 114. Derham's *Physico-Theol.* p. 407. *Veget. Staticks*, p. 153. 245. (b) P. 31. 323. 358. Nieuwentyt *Rel. Philos.* vol. 2. p. 711. (c) Ray, p. 115. (d) *Veg. Staticks*, p. 100. 324. (e) P. 76. 148. 153. 325. 358. (f) P. 331. 359. (g) P. 245. 320, &c. 325. 327. 340, & 366.

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erogeneous particles, according to the many different purposes it is to serve in one and the same vegetable, or in various kinds of them, and in different climates. But lastly, as to the roots, (a) they being the main sources of life unto every plant, are so contrived as to wrap themselves about heaps of earth, and to spread far and wide, not only to take the deeper rooting, and to lay the faster foundation, but to be in quest of proper nourishment; and then to select what is so, they are covered with so thick and close a strainer, as that nothing can be admitted, but what may easily be carried off by perspiration, vegetables having no other provision for discharging what is superfluous, or obnoxious.

From these principles of vegetation springs an amazing and delightful variety of trees, plants, and flowers; all of them remarkable for the elegant, tho' different texture of their leaves, and many of them, beyond expression so, for affording (b) many and diverse pleasures for the taste, and odours of wonderful smell, and flowers of unchangeable, as well as most beautiful colours, and of so inimitable fineness in their various embroidery and edgings, that the most skilful artist in vain attempts to counterfeit these ordinary and genuine productions of infinite wisdom and power; and therefore the richest of princes, or SOLOMON in all his glory, was never arrayed like one of these. Nay, when the (c) Orator or Poet exert all the pow-

(a) Veg. Stat. p. 77. 135. 363. Ray, p. 114. Job viii. 17. Wisd. iv.

(b) 2 Esdr. vi. 44. (c) That I may do justice to the dignity and variety of scripture-language, as well as to the observation here made, I refer my reader to the few following passages, where he will see with pleasure the justness and elegance of metaphors taken from the vegetable Creation: and indeed I have always found upon this and every subject, that I cannot express myself in so proper a style, as in that of the Holy Scriptures. Gen. xxvii. 28. Deut. xxxii. 2. 2 Sam. ii. 4. Job xxix. 19. 23. Psalm i. 3. lxxii. 6. Prov. xvi. 15. 12. The book of Canticles. Isaiah v. xviii. 4, &c. xxvii. 6. 40, 11. lxi. 11. Jer. xvii. 7, 8. Ezek. xxxi. 3, &c. Hos. xiv. 5. Ecclus. xxiv. 12, &c. xxxix. 13, 14. L. 8. John xv. Heb. vi. 7.

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ers of phantasy, to make their descriptions most lively and affecting; their images are chiefly borrowed from the *vegetable* Creation in its vernal beauty and glory, at which season the mind may be transported with the most rational pleasure, and yet indulge itself with innocence in gratifying every sense.

(a) ' There are indeed some writers of great distinction, who have made it an argument for Providence, that the earth is cover'd with *green*, rather than with any other colour, because this comfort and strengthens the eye, instead of weakening and grieving it; and that nature is industrious in making the earth gay and delightful, even whilst she is most intent upon her own preservation. I think those who are versed in philosophy, may carry their considerations higher, by observing, that if the matter of the *vegetable* world had appeared to be endowed only with those real qualities, which it actually possesses, it would have made but a very joyless and uncomfortable figure; whereas Providence, by giving it a power of producing innumerable such imaginary qualities, as tastes, smells, and colours, has kindly taken care of man, that whilst he is a sojourner in the lower stations of his nature, he should have his mind cheered and delighted with agreeable sensations; " wherefore the *Garden of Eden* seems to have been his lot and portion in his primitive state of innocence and perfection; and the *Pagan poets* invented *Elysian fields*, as the fittest preparation for his future happiness and glory.

Upon the whole, if we consider this part of the Creation, in its natural order and beauty, one would be apt to conclude it to have been made for pleasure and delight: but if we consider it in its

(a) Mr. Addison, *Spectator*. No. 387.

servency to men and beasts, we shall then think it made only for their use. And here I might insist, as others have done, (a) upon the great variety there is of trees provided for all ages, and for every purpose and occasion in life; some for fuel, some for tools, utensils, and furniture of every kind; others for building, particularly for shipping, without which trade and commerce would be almost at an end: and all of them afford a cooling and refreshing shade to man and beast, which is made most delightful by the musick of the feathered choir, (b) who *sing among their branches*, where they *build their Nests*, and find the *securest habitation*. These are natural uses, but there is one, which in reason it is scarce possible to suppose Men so vain or wicked in their *inventions* as to have *sought out*, even in the times of greatest ignorance; and yet we find, (*surely vain are all men by nature*) that every people under Heaven were so (c) *turned aside by a deceived heart*, as that after warming themselves, and baking, and roasting with part of the stock of a tree, they made a God out of the residue thereof, after the figure of a man, and then fell down unto it, and worshipped it, and prayed unto it, saying, *Deliver us, for thou art our GOD*. But this is so unnatural an abuse of the creature, and so shocking an abomination to the Creator of all things, that I am in pain, till I proceed to do justice to him, by making some further reflections on the wisdom and goodness he has manifested to us in the *vegetable world*. To this we in good measure owe the whole of our *Materia Medica*; for some plants and herbs are evidently *specificks*, and to the rest we fly for ease, relief, and cure under the various pains, diseases and evils, to which we are naturally sub-

(a) *Derb.* p. 405. 417. *Dr. Cockburn's Essays*, p. 48. (b) *Psal.* civ. 12. 17. (c) *Isaiab* xliv. *Wisdom* xiii.

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ject, or bring upon ourselves in this frail and mortal state of our existence. And I believe, there may be more of truth, than what we have yet discovered, in the conjecture of (a) a sagacious *Naturalist*, who knew as much of *plants* as most men, that “there are, by the wise disposition of Providence, such species of *plants* produced in every country, as are most proper and convenient for the *meat* and *medicine* of men and animals, that are bred and inhabit there.” As for *meat*, we daily and in every climate experience with the *Psalmist*, (b) that *the earth is satisfied with the fruit of GOD’s works*; that *he causeth the grass to grow for the cattle, and herb for the service of man*; that *he may bring forth food out of the earth, and wine that maketh glad the heart of man, and oyl to make his face to shine, and bread which strengtheneth man’s heart*. And that we might seldom suffer a scarcity of this; that grain which serves for it, (c) is fertile to a miracle, and agrees for the most part to every soil and climate. Nay, that other animals likewise might be always feasting on the munificent liberality of their Maker, he has made extraordinary provision for the propagation of herbs and grasses, (d) by the number and lightness of their seeds; which are easily wafted to and fro, and carefully sown by every *blast of wind*, or *fowl of the air*. These things are obvious to a common eye, but when the *Philosopher* (e) takes his *microscope*, a new world of wonders opens to his view, wherein he sees the leaves, flowers and fruit of vegetables, swarming with millions of living creatures, exquisitely fashioned in every part, tho’ otherwise invisible at their largest growth; all *tasting* as well as we, how *gracious and good* the Author of nature is, (f) *who thus openeth his*

(a) Ray, p. 127. (b) *Psalm* civ. 13. 16. (c) Ray, p. 125.
 (d) P. 121, &c. *Derham*, p. 413. (e) Ray, p. 186. (f) *Psal.*
 civ. 27, 28. cxlv. 15, 16.

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hand, and giveth an infinite variety of creatures, that wait all upon him, their meat in due season, satisfying the desire of every living thing, and filling them with plenteousness and good. (a) O Lord, how manifold are thy works! in wisdom hast thou made them all; the earth is full of thy riches; even the vegetable part of it, tho' this be in truth but an inferior branch of thy creation. But these reflections naturally lead me to my

II. *Second* general head, to draw such religious and practical inferences from hence, as are most proper in themselves, and such as the *Founder* of this Lecture had probably in his view. And,

1. *First*, we may hence learn to acknowledge the being and perfections of GOD, and to adore, love and serve him, as our Creator, Preserver, and the Giver of every good thing we can enjoy in this life, or hope for in another. I will not here enlarge upon the proofs that might be drawn from the harmony and beauty of the universe in all its parts, but confine myself entirely to such, as arise from the discoveries that have been already made in the vegetable world; notwithstanding we may still affirm with the wise author of the book of *Ecclesiasticus*, (b) *there are yet hid greater things than these be, for we have seen but few of his works*; tho' enough in all reason to convince any one but a *Sceptick*, that all of them must be alike wise, good, and perfect in their kind.

The surprizing effects, which I have been mentioning under my former head, must proceed from chance; or an *absolute necessity* within, or without the things themselves; or from an infinitely wise, powerful and free agent. As to *chance*, it is only a term, by which we express our own ignorance of the true cause of any *Phænomenon* or event; so that

(a) *Psalms* civ. 24.

(b) *Ecclus.* xliii. 32.

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it is as nothing, and can do nothing ; but if it could, he must be a monster in the reason of things, or to use the judicious expression of Mr. *Addison*, ‘ He must (a) ‘ have a degree of credulity not under the direction of common sense ’ who can believe that there should be a perpetual consistence, order, beauty, and usefulness in the fortuitous shufflings, and confusions of matter ; that *chance* should create, and propagate for ages in an uniform manner the various species of *vegetables*, and then make numberless copyings of the individuals of each species, as from one general idea or exemplar without any mistake or material difference, even in the minutest strokes in the *leaves*, *flowers*, or *fruit* ; notwithstanding there is in every one of them the most intricate weaving of the fibres, and a geometrical arrangement of innumerable parts ; all of them being so placed, as the offices, and uses, and wants of the several *vegetables* require. He must, I say, be guilty of a conceit prodigiously absurd, who can imagine, that *chance* should be thus delicate and uniform in her operations for above five thousand years together, tho’ in all this time, there is no proof that it has drawn a real resemblance of any one of them in a fading landskip. Doubtless an *Atheist* might more reasonably maintain, upon seeing a piece of ploughed ground, or the best cultivated garden, that the ploughing, sowing, planting, and ordering of such ground and garden, and the production of corn, trees, herbs, and flowers, from thence were all performed without any art, contrivance, or industry in man ; than that the original seeds of these should be fortuitously shuffled into being, and then grow and multiply in the wonderful manner they do, without the interposition of an *agent*, who knows itself, or any of its operations. As to an

(a) *Evidences of the Christian Religion*, p. 132.

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absolute necessity within or without these things, (a) this must be uniform, and any variation must imply a contradiction : whatever events or effects proceed from hence must exist so *necessarily*, that it cannot even be supposed with reason, that any of them can be, or could have been otherwise, than they now actually are, in any respect whatsoever, as to time, place, manner, or other circumstance of existence. But there is not the least appearance of such a necessity in the *vegetable* world, and it is so far from being a contradiction to suppose what we there see to have been made in some respects different from what it actually is, that reason assures us, that the constitution of things therein might possibly have been infinitely varied : and daily experience may convince us, that it is actually liable to very great changes : for what absolute necessity can there be for just such a number of *species* of *vegetables*, and much less of *individuals* ? or that these *species* should be all of them in some particulars alike, but amazingly different in others ? or that the workmanship of one and the same *vegetable* should be diversified with the utmost art and curiosity ? All these, it must be owned, are the most arbitrary effects that can be imagined : and therefore an absolute, unalterable *necessity* can never be the cause of them.

If therefore these works of *nature* are not the blunders of *chance*, nor the necessary effects of unintelligent *fate*, we must have recourse to GOD : and indeed all the discoveries, that have been made of the powers or capacities, of *matter* and *motion*, in this inquisitive and free-thinking age do prove to a demonstration, that the various powers of *mechanism* are not only entirely dependent on the Deity, but that (b) all second causes, as they are usually stiled, (ex-

(a) *The reasoning here used is fully and clearly urged in Dr. Clarke's Boyle's Lectures, vol. 1. p. 103, &c. Ana in the Religion of Nature delineated. p. 85.* (b) *Dr. Clarke's Sermons, vol. 1. p. 200.*

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cepting free agents) are but the effects of other causes and have (in the nature of things, and true propriety of speech) no efficiency at all, but in the end appear to be mere instruments, by which the Creator and Governour of the universe chuses perpetually and uniformly to display his own wisdom and power so that he is himself the constant (if not only) agent in what we vulgarly call the *course of nature*. And therefore it will avail an *Atheist* nothing, tho' he should be able to explain all *natural phænomena* by mechanical Principles, since these owe every thing they can do, or rather, that is done thro' their means to the divine power; but I believe, it is now certain beyond dispute, (a) that the sun, earth, and water, and all the powers of *nature*, or principles of *mechanism* in conjunction, tho' managed by the most experienced and sagacious *Atheist*, are able to do nothing at all towards producing any thing endued with so much as even a *vegetable* life, unless GOD had given him the seed bearing in its womb the perfect *embryo* or *stamina* of the future *plant*. Nay, as to the growing of a *plant*, human skill can contribute nothing, unless by putting it into such state and circumstances, wherein so wonderful an effect is ordinarily brought to pass, we know not how; but must resolve it finally, as Sir *Isaac Newton* has done by the whole *course of nature*, into the immediate, tho' regular and uniform impulse of the first mover, and the divine will and pleasure, exerting itself at all times by certain laws of its own establishing, thro' the infinitely wide extent of its dominion. For thus only is it possible to account for *gravitation* or *attraction* the great basis of all *mechanism*, and the almighty

(a) *Boyle's Lectures*, vol. i. p. 95. Dr. Bentley's *Boyle's Lectures* 320. p. 160.

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ement, which holds the universe together, and hangs all the parts of it upon nothing; which is the spring of almost all the great and regular inanimate motions of the world, (a) and is so operative in all the very different works of nature, and most eminently so in *vegetables*. It must therefore be GOD alone, who created the various *species* of *vegetables*, and observed in the make of all of them, however different, a way of every *individual*, the most exact and mathematical proportions of *number*, *weight*, and *measure*; adapting every part, fibre, and vessel, with admirable skill to several functions, ends, and uses, which could never be the necessary, or fortuitous result of matter and motion. Who gave to each of them its peculiar seeds keeps them, small and (b) numberless they are, without the least confusion, and is ever vigilant that when any of them dye, (c) the seed they give shall be most carefully repositied and secured, till they revive and propagate in a posterity most like themselves. It must be GOD alone, who has a thorough sight into, nay, is actually present in all the parts of this Creation; that invigorates, and puts forth in *vegetable* Bodies, and the air within them, seeming forces, powers and qualities, contrary to each other, and entirely different from those, by which it is possible for matter to act on matter; (d) that gives each a just proportion and direction to all of them. These very tendencies and aversions, as that they uniformly (e) concur in the principal work of *vegetation*; and to this purpose, as it were, wisely chuse out of all the *elements*, and then by force bring to a tree, plant and flower, such sort of nourishment, as is most proper for, or peculiar to it; re-

Leftw... Hales's *Veget. Staticks*, p. 96. (b) Ray's *Wisdom of*
 p. 25. (c) P. 120. 122. *Derham*, p. 411. Hales's
Staticks, p. 321. 349. (d) P. 207. 345. (e) P. 310.
 C 2 pelling

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pelling and rejecting what is not so; that every ve-
 getable may not only be preserved in its natural or-
 der, but be diversify'd by (a) various combinations
 of its nutritive matter into roots, trunk, bark, bran-
 ches, gems, shoots, leaves, blossoms and fruit. It
 is from GOD (to speak in the beautiful language of
 a modern writer) (b) that '*trees* receive annually
 '*their peculiar liveries, and bear their proper fruits*
 '*that Flowers* are dress'd, each family, in the *same* co-
 '*lours, or diversify their fashions after a certain man-*
 '*ner proper to the kind, and breath the same essen-*
 '*ces: and that both these, and all other kinds, ob-*
 '*serve their seasons; and seem to have their severa-*
 '*professions and trades appointed them, by which they*
 '*produce such food and manufactures, as may sup-*
 '*ply the wants of animals.*"

From every one of these instances, I say, it does
 clearly and undeniably appear, that there must be
 some Almighty *Mind*, (c) *wonderful in counsel, and*
excellent in working, who first modell'd, and from
 time to time preserves, orders and adorns the *vegeta-*
ble Creation; so that the *holy scriptures* speak to the
 judgment and experience of the wisest *philosophers*, as
 well as to the apprehension and observation of the
vulgar, when they assure us, that (d) in GOD we live,
 move, and have our being; (e) that he looketh to the
 ends of the earth, and seeth under the whole heaven to main-
 tain the weight for the winds, which he bringeth out of his
 treasures, and to weigh the waters by measure, and
 make decrees for the rain; (f) for he knoweth the be-
 lancings of the clouds, and numbeth them in wisdom.
 He causeth the vapours to ascend from the ends of the

(a) P. 322. 355. 366.

(c) Isaiah xxviii. 29.

24. 27. Psalm cxxxv. 7.

(b) *Relig. of Nature delineated*, p. 1.

(d) Acts xvii. 28. (e) Job xxv.

(f) Job xxxvii. 16. xxxviii. 25, &c.

the VEGETABLE CREATION. 21

earth; so that *the rain hath no other father than himself, and he begetteth the drops of the dew.* (a) He openeth unto us his good treasure, the heaven to give rain for our land in his due season, the first rain and the latter rain moderately, that we may gather in the corn, and the wine, and the oil; he maketh grass to grow upon the mountains, and in the fields, and herb for the use of men. (b) He visiteth the earth and bleisseth it; he maketh it very plenteous, he watereth the ridges thereof abundantly; he setteth the furrows thereof; he maketh it soft with showers, and bleisseth the springing thereof. He crowneth the year with his goodness, and his clouds or paths drop fatness. (c) He openeth his band, and satisfieth the desire of every living thing. So that there is not a more obvious or convincing proof of the being and providence of God, than that which is urged by the *Apostle* to the idolatrous *Lycaonians*, (d) He never left himself without witness, in that he did good, and gave men rain from heaven, and fruitful seasons, filling their hearts with food and gladness; blessings, which none (e) among the vanities of the *Gentiles* could bestow, for they cannot cause rain, nor can the heavens alone give showers; but the Lord our God must give them, who made all these things. How wise and just therefore is the reflection of a late very judicious and philosophical *Divine*, (f) 'that the best and perfectest philosophy has ended, where the natural sense of mankind began; strongly confirming and rescuing these truths out of the hands of half learn'd vain scepticks, which were originally the voice of nature, and the first and most obvious manifestation of God.'

(a) Deut. xxviii. 12. xi. 14, 15. Joel ii. 23. Zech. x. 1. Jer. v. 24. Psalm cxlvii. 8. (b) Psalm lxv. 9, &c. (c) Cxlv. 16. (d) Acts xiv. 17. (e) Jer. xiv. 22. Baruch vi. 52, 53. (f) Dr. Clarke's Sermons, vol. 1. p. 290.

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If therefore *these* be all of them truly and philosophically speaking, the *wondrous*, and *manifest* works of GOD, (a) who *created all things*, and for whose *pleasure they are and were created*. To HIM then must be *ascribed* the GLORY of them. And most *worthy* HE is to *receive* it. But who shall give it? not *vegetables* themselves. For they, however *curious*, *beautiful*, and *useful*, are void of all *sense* and *knowledge*, and not so much as *conscious* that they have a being. (b) They can only afford materials of praise to his *reasonable* offspring, who are made capable by faculties truly *divine* of *discovering* from an infinite variety of the most *surprising* effects *wisdom unfathomable*, and *power inexhaustible* in the *godhead*, under the *conduct of goodness*, as *boundless* as either of them. And in this lower world no creature is capable of this but *man*, to whom the *dominion* of it is given, together with *understanding*, *reason* and *will*; whereby GOD (c) *teacheth us more than the beasts of the earth*, and *maketh us wiser than the fowls of heaven*; nay, what is beyond this, he *rendreth us capable of religion*, which is the *supreme excellency* of created nature; capable (d) of *singing praises with understanding*, of *declaring the glorious honour of his Majesty*, and of *his wondrous works*, and of turning whatever we see, or think of into a *subject of adoration and thanksgiving*. And indeed (to borrow the words of one, to whom I am already indebted) ‘ (e) there is no *congruity* or *proportion* in the *uniform disposition*, and *correspondent order* of any *bodies* or *magnitudes*; no *fitness* or *agreement* in the *application* of *similar* and *equal*

(a) *Rev. iv. 11. Psalm xcvi.* (b) *Psalm cxlv. cxlvii. cxlviii.*
Mr. Ray's Wisdom of God, p. 200, &c. (c) *Job xxxv. 11.* (d) *Psalm*
xlvii. 7. cxlv. 6. (e) *Dr. Clarke's Boyle's Lectures, vol. 2.*
p. 83.

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geometrical figures one to another, or in the comparing them one with another, so visible and conspicuous; as is the beauty and harmony of the exercise of God's several attributes, meeting with suitable returns of duty and honour from all his rational creatures throughout the universe.' For men therefore who have leisure and abilities of every kind, not to search far and wide into the works of his creation and providence, is as it were to defraud or rob him of some part of his glory. a) Besides, it is an employment that becomes the noblest, and is sufficient for the wisest of men; nay, their wisdom can consist in nothing better, than *finding out God unto perfection*. And that he might do so, even Solomon inquired into the b) *diversities and virtues of plants* from the Cedar in Lebanon even unto the Hyssop, that springeth out of the wall. For the *vegetable world*, tho' one of the least considerable parts of the creation in itself, is yet an elegant feast to the soul, as well as to the senses of mankind; and when art discovers still greater wonders of power and wisdom than the naked eye; and when reason and Philosophy shew us the several ends of providence, and convince us, that it was made by infinite goodness for our use, ornament and delight, it seems monstrous, if not impossible that any of us, however prejudiced or insatuated, should not feel within ourselves those natural overflowings of admiration and pleasure, of love and gratitude, which become the relation we stand in to our own Creator and Preserver, to the Author of every good gift and blessing in the world.

a) *This topick is excellently set forth in the book of Wisdom, Chap. vii. and by Mr. Ray, p. 190, &c. and in Mr. Hales's Veg. Staticks, p. 318. (b. Wisdom vii. 21. 1 Kings iv. 33.*

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Methinks every field and garden must be looked upon by wise and good men, as a place consecrated to religious worship, and dispose them to continual exercises of devotion. Nor would their religion and devotion end in the private, or public thanksgivings of their souls: but carry them, when thus prepared, to live in a continual sense of his sovereign power over, as well as goodness, to them, and to employ their whole being, all their faculties and talents in the service and imitation of their GOD, till they *are*, as far as it is in their power to be, *perfect, even as he is perfect*; for a true philosopher, who sees the Deity thro' every object on which he casts his eye, and finds the influences and workings of his perfections in every experiment he makes, in all the *phænomena* of nature, (not one of which could be without him,) can never want a reason to convince, or a motive to persuade him, that since all inanimate and irrational beings constantly obey the laws of their creation, and tend regularly to the ends for which they were appointed, it must be unnatural and absurd for reasonable creatures, when free as GOD is free, to abuse this glorious privilege of liberty by breaking thro' those laws of reason and virtue, to which they are by him subjected, and thus make themselves the alone unreasonable and disorderly part of the universe. But it is high time for me to pass to a

2. *Second inference*, which our blessed Saviour suggests to us in my text, (a) and in St. Mark, to have *faith* in GOD, and to live under all the dispensations of his *providence*, free from unreasonable anxiety, diffidence and murmurings. For tho' we should not be always *tasting of his goodness* in a plentiful

(a. Mark xi. 22.

ty of temporal enjoyments; nay, tho' temporal evils should be our lot and portion in this world, nevertheless, since his goodness and wisdom cannot err in chusing for us, we may be sure that he is making, even by such means, the wisest provision for our spiritual and eternal happiness, if we do not lose it thro' our own perverseness and wickedness. For can we think, that HE, who governs the motions of every the minutest particle of life-matter, and by whose providence the grass of the field, which to day is, and to morrow is cast into the dunghill, is yet clothed in a more beautiful array, than the richest of Eastern monarchs; that HE, who takes the most kind and proper care of all his other creatures, satisfying the desire of every living thing with good, and disposing of, and providing for them in the most excellent manner, agreeable to their respective natures and stations. Is it possible, nay, for us to think, or to be of so little faith as not to believe that GOD must have a more particular regard and concern for man, than for plants and beasts that perish; since he made him the greatest and most valuable of all creatures here below; and so great and valuable, that we may affirm, (a) that with a most judicious person, 'without over-valuing human nature, that the soul of one virtuous and religious man, is of greater worth and excellency, than the sun, and his planets, and all the stars in the world.'" The earth we live upon being (b) made in wisdom, and full of the riches of GOD, should convince us, beyond all doubt and distrust, of his real intention to do all that we, in reason, be expected of him towards mak-

(a) Dr. Bentley's Boyle's Lectures, p. 295. (b) Psalm civ.

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ing every thing as *happy* as it is *good*; and that will not fail to prepare for *men* (if obedient his will) a happiness suitable and adequate the natural longings and ambition of their soul which he at first (a) *created to be immortal*, and *image of his own eternity*. It is then unreasonable to imagine that HE should, after a short, frail and painful life, annihilate such glorious creature in whom he has planted an insatiable desire of living for ever; and whom he has made by nature capable of receiving perpetual improvements knowledge and virtue, and of thus drawing near to himself by greater degrees of resemblance. It is unreasonable, I say, to think, that *they* should be as tho' they had never been, after a short turn upon the stage of this world, and after having just looked abroad into the works of their Creator, and found reason to believe, that his *goodness*, as well as his *wisdom*, is infinite. 'But how (to speak the beautiful, and on this occasion most proper metaphors (b) of a late elegant writer) 'can we find this wisdom and goodness, which shine through all his other works, in the formation of men without looking on this world, as only a mere scene for the next, and believing that the several generations of rational creatures, which rise and disappear in such quick successions, are only to receive their first rudiments of existence here, and afterwards to be *transplanted* into a more friendly climate, where they may *spread* and *flourish* to eternity.'

These are the probable conjectures of unassisted reason, but the argument grows demonstrative

(a) *Wisd.* ii. 27.

(b) *Spectator*, No. cxi.

and as I hope, must be irresistibly affecting to us, who live under the Gospel, and know that God besides (a) *making Men a little lower than the Angels, and crowning them with glory and honour* has been so *mindful* of them, when they had corrupted themselves beyond recovery by idolatrous and wicked inventions; when they had forfeited his favour, and the natural claim he had given them to immortality, and pulled (b) *upon themselves death and destruction with the works of their hands*: In these desperate circumstances, he has been, I say, so *mindful* of us, as to send his only *beloved Son* to visit us, (c) and to *put away sin by the sacrifice of himself*, that he might thus redeem us from the misery and punishment, that were in justice due to our transgressions, (d) and by his resurrection from the dead beget us again unto a lively hope, to an inheritance incorruptible, and undefiled, and that fadeth not away, reserved in Heaven for us. I am sensible that I have been too long, but immortality is so delightful a subject, that I know not how to leave it, and must therefore intreat your patience for a little while, during a

3. *Third inference*, that I may, in justice to the will of the *Founder* of this *Lecture*, just touch upon a natural thought suggested in it, and try, how far the resurrection of the body may be proved by the certain changes of the animal and vegetable parts of the Creation. The immortality indeed of the Soul alone, and a future state for that, may, for ought I can know by reason, be sufficient to answer all the pur-

(a) *Psalm* viii. 5.

(b) *Wisdom* i. 12.

(c) *Heb.* ix. 26.

(d) *1 Pet.* i. 3, 4.

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poses of GOD in creating and governing Man, but yet it is remarkable, (a) that this beautiful frame of things is maintained in a continual round of the production and dissolution of animal and vegetable bodies, (b) that what we sow is quickened, except it dye, and that (c) a state of putrefaction does by a wise order of Providence fit plants to resuscitate again in new vegetable productions. Why therefore should it not seem natural, to think with Job, that the fleshy tabernacles of Men, should after their dissolution and corruption revive and flourish, (d) even tho' this change this appointed time should not come, till the Heavens be no more, and till our Redeemer shall stand at the latter day upon the earth. There is hope of a tree, if be cut down, that it will sprout again, and that the tender branch thereof will not cease; tho' the roots thereof wax old in the earth, and the stock thereof in the ground: yet thro' the scent of water it will bud and bring forth boughs like a plant. Why then should not seem probable, according to that common rule of reasoning from the analogy of nature, that even the Parts of human bodies, which are of all others the most (e) curiously and wonderfully made, tho' sinking for a while into corruption, and mouldering to dust, shall not be for ever buried in the cave of the grave; but spring up with new life, vigour

(a) Hale's Veg. Statick, p. 314.

(b) 1 Cor. xv.

(c) Hale's Veget. Staticks, p. 320.

(d) Job xiv. 7. 14.

15. xix. 25, 26. These passages of Job are best interpreted as an addition to the end of his Book, which we find in the Septuagint and may be thus translated. So Job died being old full of days; but 'tis written, that he shall rise again with them whom the Lord raises up. Job xlii. 17.

(e) Psalm cxx

14. 15.

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and beauty, even as *vegetables* from rotten particles of seed ; or in the *prophetic metaphors* of *Ezekiel* and *Isaiab*, (a) that our *dry bones should live and flourish like an herb* ; that our *dead bodies, that dwell in the dust, should arise, awake and sing, for our dew is as the dew of herbs, and the earth shall cast out the dead.*

These are, I own, no other than the faint glimmerings of *reason and tradition*, discovering themselves in many parts and ages of the World, and growing a little brighter by an imperfect revelation among the *Jews* : but they now *shine unto the perfect day under the Gospel of Christ*, (b) *who hath brought life and immortality to light, and whose Apostle hath shewn unto us this mystery of Providence*, (c) *that we shall all be changed, and that this corruptible shall put on incorruption, and that this mortal shall put on immortality, and be raised so spiritual, heavenly and glorious as to abide and continue the same for ever* : and thus become by its refinements and improvements, an useful and necessary instrument to a *glorified soul*, and convey to it, perhaps by new inlets, such an infinite variety of perceptions and discoveries of *divine wisdom*, (d) *as eye hath not seen, nor ear heard, neither have entered into the heart of man to conceive, whereby its knowledge and happiness will be increasing to all eternity.* But to such as ask, *how this thing may be?* my answer is, (e) *we walk now by faith, and not by sight* ; but when our (f) *Saviour, the Lord Jesus Christ shall appear in the glory of his Father out of Heaven*, he will then

(a) *Ezekiel xxxvii. Isaiab lxvi. 14. xxvi. 19.* (b)
 2 Tim. i. 10. (c) *Cor. xv. 51. 53.* (d) *1 Cor. ii. 9*
 (e) *2 Cor. v. 7.* (f) *Phil. iii. 20, 21.*

change

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change our vile bodies that they may be like fashioned unto his glorious body, according to the working, whereby he is able, even to subdue all things unto himself; after which they shall enjoy in the more immediate presence of God, and the company of Angels (without interruption, frailty or infirmity) an unchangeable and everlasting life.

FINIS.



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JOHN DENNE, D.D. Archdeacon of
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Shoreditch.

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